

State of California—Health and Human Services Agency

California Department of Public Health

DRINKING WATER FIELD OPERATIONS BRANCH
50 D STREET, SUITE 200, SANTA ROSA, CA 95404
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INTERNET ADDRESS: www.cdph.ca.gov



May 6, 2014

Steven Herber, M.D. St. Helena Hospital 10 Woodland Road St. Helena, CA 94574

Re: St. Helena Hospital public water system (System No. 2800625) Compliance Order #02-03-14R-001-2800625-08

Dear Dr. Herber,

Section 116555(a)(3) of the California Health and Safety Code requires public water systems to provide reliable and adequate supply of pure, wholesome, healthful, and potable water. The enclosed Compliance Order #02-03-14R-001-2800625-08 (Order) has been issued to St. Helena Hospital (System) for failure to provide appropriate preventative measures necessary to ensure state and federal drinking water standards are reliably met.

Please review the compliance order carefully as it contains legally binding provisions to which the System must adhere. Non-compliance with the order may result in the Department taking further enforcement actions.

In addition to the items specified in the Order, the Department would like to bring your attention to other relevant issues:

- (a) The System has not submitted a permit amendment application for a well previously constructed (Liparita Well 02). The System must submit a permit amendment application and receive an amended domestic water supply permit prior to activating this source. The System can complete this application and start the process to activate this well using our website at http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Permits.aspx.
- (b) The Department is not able to evaluate the source and storage capacity requirements for the System until the intertie flow rate test is completed.
- (c) The Department does not typically require specific actions at individual connections. However, due to the vulnerable population served by the

hospital, the System may wish to evaluate additional precautionary treatment, such as ultraviolet treatment, within the hospital. This would provide additional disinfection safeguards since chlorine does not provide treatment against all pathogens and it is currently unknown if the horizontal wells may be impacted by the *E. coli* which was found to be present in the Liparita Well 01. If *E. coli* is found in any of the horizontal wells, removal of the impacted sources and/or additional treatment will be required for the entire water system.

Please be aware that the Department does have a State Revolving Fund (SRF) program that may be applicable to your water system for low interest loans to address planning needs and/or construction improvements. Projects that may qualify for funding include additional source development, consolidation, and/or treatment options.

More funding information is available on our website at:

http://www.cdph.ca.gov/certlic/drinkingwater/Pages/UniversalPreapplication.aspx

If you have any questions regarding this compliance order or the funding process, please contact Amy Little of my office at 707-576-2145.

Sincerely,

Michelle F. Frederick, P.E.

District Engineer, Mendocino District

Michell J. Foderick

Enclosures: Compliance Order 02-03-14R-001-2800625-08

Operational Reporting Log Sheet (via email to Glenn Davison)

c: see next page

St. Helena Hospital May 6, 2014 Page 3

c: California Department of Public Health, Licensing and Certification Program c/o Dana Forney, RN, BSN, Health Facilities Evaluator Manager II 2170 Northpoint Parkway Santa Rosa, CA 95407

Napa County Department of Planning, Building and Environmental Services c/o Stacey Harrington, R.E.H.S, M.S. 1195 Third Street, Room 210 Napa, CA 94559

California Department of Public Health – Operator Certification Program c/o Alice Webber 1616 Capital Avenue, Suite 74.250 Sacramento, CA 95814

TO:

COURT PAPER STATE OF CALIFORNIA STD. 113 (REV. 3-95)

Compliance Order No. 02-03-14R-001-2800625-08

STATE OF CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

IN RE:

St. Helena Hospital

Water System No. 2800625

10 Woodland Road

St. Helena, CA 94574

Steven Herber, M.D.

Vice President, St. Helena Hospital

Date Issued: May 6, 2014

COMPLIANCE ORDER FOR VIOLATION OF HEALTH AND SAFETY CODE SECTION 116555(a)(3) AND

DOMESTIC WATER SUPPLY PERMIT NO. 02-03-12P2800625, CONDITION 4

Section 116655 of the California Health and Safety Code (CHSC) authorizes the issuance of an order for failure to comply with a requirement of the California Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any permit, regulation, or standard issued thereunder.

COURT PAPER STATE OF CALIFORNIA STD. 113 (REV. 3-95) The Division of Drinking Water and Environmental Management of the State of California Department of Public Health (Department) hereby issues a compliance order (Order) to St. Helena Hospital public water system (System) for failure to comply with Health and Safety Code Section 116555(a)(3) and Domestic Water Supply Permit No. 02-03-12P2800625, Condition 4.

STATEMENT OF FACTS

The System is located on site at the St. Helena Hospital in St. Helena, CA. The service area includes the hospital, a private school (K-6), employee housing and many residences of Deer Park and Angwin. The System serves 950 permanent residents through 212 service connections. The System is classified as a community public water system. The System is operated by a single licensed operator, Mr. Harold Glenn Davison (Grade T2 license number 21938, Grade D2 license number 35828).

The System's domestic water sources include three vertical wells (located at different sites) and sixteen horizontal wells. The Liparita site includes a vertical well (Liparita Well 01 with sodium hypochlorite injection) which is combined with sixteen horizontal wells below before entering the distribution system.

The Liparita Well 01 is 400 feet deep and was drilled in 1981. The annular seal is 20 feet deep and the well log indicates that the well was drilled in a fractured

COURT PAPER STATE OF CALIFORNIA STD. 113 (REV. 3-95) OSP 05 90192 rock formation. Liparita Well 01 is estimated to produce 20 gallons per minute of water. The Department conducted a physical inspection of Liparita Well 01 on February 7, 2013 in response to the presence of *Escherichia coli* (*E. coli*) in the Liparita Well 01 (sample collected on December 19, 2012).

Date Issued: May 6, 2014

On February 19, 2013, the Department sent correspondence to the System directing it to take the following actions: (1) expedite the steps to bring a properly constructed well (Liparita Well 02) online, (2) sample bacteriological water quality of Liparita Well 01 on a weekly basis and contact the Department immediately if any samples were positive for *E. coli*, (3) reactivate an abandoned disinfection system, (4) separate the chemical disinfection system, (5) shift operating Liparita Well 01 to only dry months, (6) maintain a chlorine residual of 0.5 milligrams per liter (mg/L) at the entrance to the distribution system, and (7) install a Department approved chlorine analyzer with an alarm.

Liparita Well 01 has been monitored for bacteriological data weekly since February 2013. Table 1, on the next page, provides the total coliform and *E. coli* bacteriological sample results from Liparita Well 01 between January 28, 2014 and March 25, 2014.

Table 1. Liparita Well 01 Bacteriological Results for Total Coliform and E. coli

Date	Total Coliform (MPN)	E. coli (MPN)
Jan 28, 2014	6.3	<1.0
Feb 4, 2014	<1.0	<1.0
Feb 11, 2014	1,046.2	27.5
Feb 18, 2014	224.7	17.1
Feb 25, 2014	88.4	8.4
Mar 4, 2014	<1.0	<1.0
Mar 11, 2014	1.0	<1.0
Mar 18, 2014	32.7	4.1
Mar 25, 2014	20.3	3.1

The Department was not immediately notified of the presence of E. coli in

Liparita Well 01, as directed. The Department determined the presence of *E. coli* at Liparita Well 01 through an internal review of electronic records submitted by the laboratory.

The "Combined Horizontal Well" sample location bacteriological water quality was monitored periodically since February 2013. Domestic Water Supply Permit No. 02-03-12P2800625, Condition 4 requires the "Combined Horizontal Well" to be sampled on a monthly basis (September through May) and quarterly basis (June through August) prior to any treatment. Table 2 provides total coliform and *E. coli* bacteriological sample results from "Combined Horizontal Well" during expected monitoring periods since February 2013. Over the last twelve months (April 2013 through February 2014), only four of the required ten

samples were collected. The presence of chlorine in two of the samples demonstrates that the samples were not collected prior to all treatment.

Table 2. "Combined Horizontal Well" concentration of chlorine residuals and Bacteriological Results for Total Coliform and *E. coli*

Date	Total Coliform (MPN)	E. coli (MPN)	Chlorine residual, mg/l
Feb 20, 2013	<1.0	<1.0	
Mar 26, 2013	<1.0	<1.0	1.1
April 2013	No results reported		
May 2013	No results reported		1
June 27, 2013	<1.0	<1.0	0.99
Sep 17, 2013	<1.0	<1.0	
Oct 2013	No results reported		
Nov 2013	No results reported		
Dec 18, 2013	<1.0	<1.0	
Jan 2014	No results reported		
Feb 2014	No results reported		
Mar 19, 2014	<1.0	<1.0	

Department staff conducted a field inspection of the System on April 23, 2014. During the inspection, the source and associated treatment facilities were evaluated. By direction of the Department, Liparita Well 01 was shut off and no longer produces water to the System. Bacteriological samples were collected from Horizontal Well N1, Ballentine Well, Hillcrest Well 02, and from the emergency room at the hospital. There was no bacteriological activity in any of the operational samples collected during the inspection. The chlorine residual in the emergency room sink measured 1.14 milligrams per liter (mg/L).

During the inspection, the Department observed the following: (1) sixteen horizontal wells in close proximity to the contaminated source, (2) insufficient raw bacteriological water quality monitoring of the sixteen horizontal wells, (3) insufficient construction information for the older horizontal wells, and (4) a new transmission main between the sources and the entrance to the distribution system in construction. Through discussions with Napa County Department of Planning, Building and Environmental Services, the Department understands that there is potentially a septic system located east and within 200 feet of the contaminated Liparita Well 01. The Department is concerned that this is a potential source of contamination and may adversely impact the sixteen horizontal wells.

AUTHORITIES

California Health and Safety Code section 116555(a)(3) states in relevant part:

- (a) Any person who owns a public water system shall ensure that the system does all of the following:
 - (3) Provides a reliable and adequate supply of pure, wholesome, healthful, and potable water.

California Health and Safety Code section 116655 states in relevant part:

(a) Whenever the department determines that any person has violated or is violating this chapter, or any permit, regulation, or standard issued or adopted pursuant to this chapter, the director may issue an order doing any of the following:

COURT PAPER STATE OF CALIFORNIA STD. 113 (REV. 3-95)

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(1)	Directing	comp	liance	torthwith.

- (2) Directing compliance in accordance with a time schedule set by the department.
- (3) Directing that appropriate preventive action be taken in the case of a threatened violation.
- (b) An order issued pursuant to this section may include, but shall not be limited to, any or all of the following requirements:
 - (1) That the existing plant, works, or system be repaired, altered, or added to.
 - (2) That purification or treatment works be installed.
 - (3) That the source of the water supply be changed.
 - (4) That no additional service connection be made to the system.
 - (5) That the water supply, the plant, or the system be monitored.
 - (6) That a report on the condition and operation of the plant, works, system, or water supply be submitted to the department.

Domestic Water Supply Permit No. 02-03-12P2800625, Condition 4 states in relevant part:

4. Bacteriological testing of the Ballatine Well 03, Combined Horizontal Wells, Hillcrest Well 02, and the Liparita Well shall be conducted, prior to any treatment at least once per month during the period from September 1st to May 31st and once per quarter during the period from June 1st to August 31st. The samples shall be analyzed by a laboratory that has been certified by the Department to perform coliform analyses pursuant to Section 116390 of the California Health and Safety Code. The method used for analysis shall

• •

determine most probable number of total and fecal or E-coli coliform organisms up to a density of 2,400 organisms per 100 milliliters of sample. The results from each month of sampling shall be submitted directly to the Department by the analyzing laboratory before the 10th day of the following month. The first raw bacteriological samples shall be collected by January 31, 2013.

DETERMINATIONS

Based on the above-described Statement of Facts, the Department determines that the System has violated the following:

1. CHSC Section 116555(a)(3) in that the System does not have sufficient treatment or alarms to provide a reliable and adequate supply of pure, wholesome, healthful, and potable water. Inadequate treatment and alarms threatens the drinking water supply, putting it at risk for bacteriological contamination and a violation of state and federal drinking water standards. It is noted that the population of this water system includes a hospital and as such serves a potentially vulnerable population.

2. Domestic Water Supply Permit No. 02-03-12P2800625, Condition 4 in that the System did not collect "Combined Horizontal Well" samples upstream of all treatment and during all required periods.

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COURT PAPER STATE OF CALIFORNIA STD. 113 (REV. 3-95)

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ORDER

Pursuant to Section 116655 of the CHSC, the Department and its Director hereby orders the System to do the following:

Directive 1. To meet immediate disinfection needs on an interim basis, by **May 9, 2014**, the System shall relocate its disinfection injection point from Liparita Well 01 to a location, approved by the Department, that ensures all horizontal source waters are disinfected at all times. To demonstrate the disinfection facility is operating successfully, the System shall submit the following:

- a. A written description of how the disinfection facility is configured and maintained, including the injection site, the disinfectant applied, the concentration of the disinfectant solution, chemical feed pump settings, target chemical dosage, and any additional information requested by the Department.
- b. Photographs of the facility and the chemical feed system.
- c. A copy of the daily logs maintained by the operator shall be submitted to the Department on a weekly basis. The daily logs for this facility shall contain date, time of visit, name of operator, production, chemical feed settings, chemical dosage, disinfection residual concentration at the entrance to the distribution system, and any additional information as directed by the Department. The information shall be submitted on a Department provided spreadsheet.

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COURT PAPER STATE OF CALIFORNIA STD. 113 (REV. 3-95)

OSP 05 90192

Directive 2. By June 20, 2014, the System shall install a disinfection analyzer. location to be approved by the Department, to ensure adequate inactivation of pathogens as directed by the Department. The System shall measure daily disinfection residual concentrations, weekly pH, and weekly temperature at the entrance to the distribution system until a chlorine analyzer is installed and approval is obtained from the Department to reduce monitoring. The System shall operate and configure the analyzer in accordance with manufacturer recommendations and as directed by the Department. The System must record the daily minimum chlorine residual as reported by the analyzer to determine any pathogen disinfection inactivation requirements (e.g. 99.99% reduction of virus or 99.9% reduction of Giardia lamblia cysts) specified by the Department. The system shall also maintain a minimum of no less than 0.5 mg/L of free chlorine residual throughout all portions of its distribution system at all times.

All water quality results and parameters associated with determining pathogen inactivation at the disinfection facility must be reported to the Department, in accordance with a Department supplied spreadsheet. The completed spreadsheet shall be submitted on a weekly basis by Wednesday of the following week. The first of such reports shall be submitted to the Department by May 21, 2014 for operations between May 12 and May 16, 2014. The required operational sheet is being sent to the System's operator from the Department via email.

Directive 3. By **June 30, 2014**, the System shall submit a disinfection system proposal to the Department for review and approval that will ensure all sources are disinfected regardless of which sources are in operation. A production meter

must be in place that captures the production from each source and from the combined horizontal spring sources. The proposed disinfection system submittal shall include a schematic that describes the location and name of all sources, all piping location, size and material, contact vessels, source production at the site of disinfection, expected water quality (pH and temperature), operations, controls, alarm set points, planned equipment (manufacturer and model number), and any additional pertinent details requested by the Department. The System shall ensure that the Department-approved proposal required is operational by October 30, 2014.

Directive 4. The System shall have an alarm in place that is activated when a low disinfection residual concentration is detected by July 1, 2014. The alarm shall be tested on a monthly basis. The alarm shall have a notification delay no greater than 15 minutes. The alarm shall alert the operator remotely when the disinfection is less than necessary to meet the required disinfection activation as directed by the Department or less than necessary to ensure a 0.5 mg/L free chlorine residual throughout the distribution system, whichever is more conservative. A certified operator shall immediately respond to any notifications and the System shall have adequate certified operators on staff to ensure that these notification requirements will be maintained at all times.

Directive 5. The System shall not operate Liparita Well 01 until written approval from the Department is obtained. The System may be subject to its Domestic Water Supply Permit being revoked in the event Liparita Well 01 is operated to the System without approval from the Department.

Directive 6. Sample taps at each horizontal well must be installed by **May 23**, **2014**. By **May 31**, **2014**, the System shall collect its first raw bacteriological samples from each horizontal well and additional monitoring shall be in accordance with the sampling schedule in Table A.

Table A. Raw Bacteriological Monitoring for Horizontal Wells

Event	Location ¹	Frequency
Normal Operations	Combined Horizontal Wells	MONTHLY
Precipitation greater	Each individual Horizontal Well	Once within every
than 1 inch in a 24	(16 samples) sampled within 48	six month period
hour period	hours of the event.	
Normal Operations	Rotate through each group	One sample per
	specified in Table B, starting with	WEEK (September
	one sample from Group A (N1)	through May),
	sampled the first week. One	unless otherwise
	sample from Group B (A1)	directed by the
	sampled the second week, etc.	Department

Table B. Horizontal Well Groups

Well Group	Well Sample Order
Group A	N1, N2, N3, N4
Group B	A1, A2, A3, A4
Group C	1, 2, 3, 4
Group D	5, 6, 7, 8

¹ All raw bacteriological monitoring shall be collected upstream of any treatment, including disinfection.

All raw bacteriological testing of sources shall be conducted, prior to any treatment. The samples shall be analyzed by a laboratory that has been certified by the Department to perform coliform analyses pursuant to Section 116390 of the California Health and Safety Code. The method used for analysis shall determine the most probable number (MPN) of total and fecal or *E. coli* coliform organisms up to a density of 2,400 organisms per 100 milliliters of sample. The results from each month of sampling shall be submitted directly to the Department by the analyzing laboratory before the 10th day of the following month.

Directive 7. A representative of the System shall complete an updated Emergency Notification Plan for review and approval by the California Department of Public Health Division of Drinking Water and Environmental Management and the California Department of Public Health, Center for Health Care Quality, Licensing and Certification Program by **June 30, 2014**.

Directive 8. A representative of the System shall complete an updated Bacteriological Sampling Site Plan (Plan) for review and approval by the Department by **June 30, 2014**. In addition to the basic requirements of a Plan, the System shall specify, at minimum, one ROUTINE bacteriological monitoring at the hospital on a monthly basis and daily monitoring of the chlorine residual within the hospital. The free chlorine residual measured at the hospital shall be greater than 0.5 mg/L at all times.

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COURT PAPER STATE OF CALIFORNIA STD. 113 (REV. 3-95) OSP 05 90192

Directive 9. A representative of the System shall complete an Emergency Disinfection Plan for review and approval by the Department by June 30, 2014. The Emergency Disinfection Plan shall discuss the action taken by personnel to address the following disinfection events: (1) a chlorine residual concentration of less than 0.5 mg/L is detected at the hospital, (2) a chlorine residual concentration is less than the required log inactivation specified by the Department, and (3) a chlorine residual is not detected within the distribution system.

Directive 10. A representative of the System shall complete the attached Certification Form and return it to the Department by June 30, 2014.

Directive 11. The System shall annually conduct a flow test of its intertie with Howell Mountain Mutual Water Company. The first test of the intertie shall be completed by September 30, 2014.

Directive 12. The System shall notify the Department immediately but no more than 24 hours in the event of any of the following:

- a. Any free chlorine measurement does not meet required pathogen inactivation as directed by the Department and as calculated based on the spreadsheet provided by the Department. The free chlorine residual is measured below 0.5 mg/L anywhere in the distribution system.
- b. Any results from raw bacteriological monitoring indicates the presence of any E. coli and/or total coliform exceeds 10 MPN. The results of any distribution system samples are positive for total coliform or *E. coli*.

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c. The distribution pressure is below 20 pounds per square inch at any portion of the distribution system.

Directive 13. The System shall submit a complete operating staffing plan by **December 31, 2014** that addresses the following:

- a. Role and responsibilities of the certified operator during normal operations and emergency operations. A certified water operator shall be available at all times for emergency operations.
- b. Number of hours certified personnel is available to maintain and operate the public water system, excluding their other duties.
- c. A training program for new certified operating personnel during transitions to ensure no interruptions in operation.

The Department reserves the right to make such modifications to this Order as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Order and shall be effective upon issuance.

Nothing in this Order relieves the System of its obligation to meet the requirements of the California Safe Drinking Water Act (CHSC, Division 104, Part 12, Chapter 4, commencing with Section 116270), or any permit, regulation. standard or order issued thereunder.

All submittals required by this Order shall be submitted to:

COURT PAPER STATE OF CALIFORNIA STD. 113 (REV. 3-95) OSP 05 90192 Ms. Michelle F. Frederick, District Engineer Mendocino District California Department of Public Health 50 D Street, Suite 200 Santa Rosa, CA 95404

PARTIES BOUND

This Order shall apply to and be binding upon the System, its officers, directors, agents, employees, contractors, successors and assignees.

SEVERABILITY

The directives of this Order are severable, and the System shall comply with each and every provision thereof notwithstanding the effectiveness of any provision.

FURTHER ENFORCEMENT ACTION

Division 104, Part 12, Chapter 4, (commencing with section 116270) of the H&S Code authorizes the Department to: issue a citation with assessment of penalties for failure to comply with any order, in an amount not to exceed one thousand dollars (\$1,000) per day for each day the violation continues; take action to suspend or revoke a permit that has been issued to a public water system if the system has failed to comply with an order of the Department; and petition the superior court to take various enforcement actions against a public water system that has failed to comply with an order of the Department. The Department does not waive any further enforcement action by issuance of this Order.



C:

The State of California shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by the System, its employees, agents or contractors in carrying out activities pursuant to this Order, nor shall the State of California be held as a party to any contract entered into by the System or its agents in carrying out activities pursuant to the Order.

Stefan Cajina, P.E., Chief North Coastal Region Drinking Water Program

CERTIFIED MAIL # 7010 1870 0000 5927 0120

California Department of Public Health, Licensing and Certification c/o Dana Forney, RN, BSN, Health Facilities Evaluator Manager II 2170 Northpoint Parkway Santa Rosa, CA 95407

Napa County Department of Planning, Building and Environmental Services c/o Stacey Harrington, R.E.H.S, M.S. 1195 Third Street, Room 210 Napa, CA 94559

California Department of Public Health – Operator Certification Program c/o Alice Webber 1616 Capital Avenue, Suite 74.250 Sacramento, CA 95814

2800625/Compliance(4) Compliance Order No. 02-03-14R-001-2800625-08/AJL



COMPLIANCE CERTIFICATION

Compliance Order No. 02-03-14R-001-2800625-08

Name of Water System: St. Helena Hospital, System Number: 2800625

complied with the directives of this compliance order as in	dicated below: Date
Required Action	Completed
Directive 1 – Immediate disinfection in place	
Directive 2 – Disinfection analyzer in place	
Directive 3 – Department approved disinfection	
Directive 4 – Alarms in place	
Directive 5 – Liparita Well 01 is offline	
Directive 6 – Horizontal Spring monitoring	
Directive 7/8/9 –Plans in place	
Signature of Water System	Date
Representative	

THIS FORM MUST BE COMPLETED AND RETURNED TO THE DEPARTMENT BY JUNE 30, 2014

Disclosure: Be advised that Section 116725 and 116730 of the California Health and Safety Code states that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the attached order may be liable for a civil penalty not to exceed five thousand dollars (\$5,000) for each separate violation for each day that violation continues. In addition, the violators may be prosecuted in criminal court and upon conviction, be punished by a fine of not more than \$25,000 for each day of violation, or be imprisoned in county jail not to exceed one year, or by both the fine and imprisonment.